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BEFORE THE ARIZONA CORPORATION COMMISSION

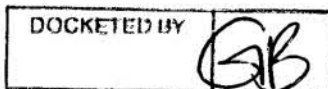
COMMISSIONERS

DOUG LITTLE - Chairman
BOB STUMP
BOB BURNS
TOM FORESE
ANDY TOBIN

Arizona Corporation Commission

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IN THE MATTER OF THE APPLICATION
OF ARIZONA PUBLIC SERVICE
COMPANY FOR A HEARING TO
DETERMINE THE FAIR VALUE OF THE
UTILITY PROPERTY OF THE COMPANY
FOR RATEMAKING PURPOSES, TO FIX
A JUST AND REASONABLE RATE OF
RETURN THEREON, AND TO APPROVE
RATE SCHEDULES DESIGNED TO
DEVELOP SUCH RETURN.

DOCKET NO. E-01345A-16-0036

E-01345A-16-0123

**WAL-MART STORES, INC.'S AND
SAM'S WEST, INC.'S NOTICE OF
FILING DIRECT TESTIMONY OF
GREGORY W. TILLMAN
(NON-RATE DESIGN)**

Wal-Mart Stores, Inc. and Sam's West, Inc. (collectively, "Wal-Mart"), hereby
provide notice of the filing of Gregory W. Tillman's direct testimony (non-rate design).

Dated this 28st day of December, 2016.

HIENTON & CURRY, P.L.L.C.

By


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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

**DOUG LITTLE, CHAIRMAN
BOB STUMP
BOB BURNS
TOM FORESE
ANDY TOBIN**

**IN THE MATTER OF THE APPLICATION
OF ARIZONA PUBLIC SERVICE
COMPANY FOR A HEARING TO
DETERMINE THE FAIR VALUE OF THE
UTILITY PROPERTY OF THE COMPANY
FOR RATEMAKING PURPOSES, TO FIX
A JUST AND REASONABLE RATE OF
RETURN THEREON, TO APPROVE RATE
SCHEDULES DESIGNED TO DEVELOP
SUCH RETURN.**

DOCKET NO. E-01345A-16-0036

DIRECT TESTIMONY (NON-RATE DESIGN) AND EXHIBITS OF

GREGORY W. TILLMAN

ON BEHALF OF

WAL-MART STORES, INC. AND SAM'S WEST, INC.

December 28, 2016

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Exhibits

Exhibit GWT-1 – Witness Qualifications Statement	
Exhibit GWT-2 – Calculation of Revenue Requirement Impact of APS' Proposed Increase in ROE and Equity Ratio	
Exhibit GWT-3 – Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2014 to Present	
Exhibit GWT-4 – Calculation of Revenue Requirement Impact of APS' Proposed ROE Against the Average ROE Nationally (excluding FL, MI, WI)	

Introduction

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.

A. My name is Gregory W. Tillman. My business address is 2001 SE 10th St., Bentonville, AR 72716-5530. I am employed by Wal-Mart Stores, Inc. as Senior Manager, Energy Regulatory Analysis.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS DOCKET?

A. I am testifying on behalf of Wal-Mart Stores, Inc. and Sam's West, Inc. (collectively "Walmart").

Q. PLEASE DESCRIBE YOUR EDUCATION AND EXPERIENCE.

A. I earned a Bachelor of Science in Electrical Engineering from the University of Tulsa in 1987. I have more than 24 years of experience in the regulated and deregulated energy industry including roles in regulatory, pricing, billing, and metering information. After serving on active duty as a Signal Officer in the United States Army, I joined Public Service Company of Oklahoma ("PSO") where I was employed in various positions in the Information Services, Business Planning, Rates and Regulatory, and Ventures departments from 1990 through 1997. Within the Rates and Regulatory department I served as the Supervisor of Power Billing and Data Collection. In this position I managed the billing for large industrial and commercial customers and led the implementation of the company's real-time pricing program. I also managed the implementation of real-time pricing for three other utilities within the Central and South West Corporation – Southwestern Electric Power Company, Central Power and Light, and West Texas Utilities. Following my employment at PSO, in 1997 I joined the Retail department of the Williams Energy Company as the

1 manager of systems for the retail gas and electric data and billing systems. During my
2 tenure at Williams I also managed the customer billing function at Thermogas and
3 billing and accounting systems support functions at Williams Communications. In
4 2000, I joined Automated Energy where I served as the Vice President of Energy
5 Solutions for two years. Following several assignments as a consultant and project
6 manager in various industries, in 2008 I joined Oklahoma Gas & Electric Company
7 ("OG&E") as a senior pricing analyst, was promoted to Manager of Pricing in
8 January 2010, and became the Product Development Pricing Leader in 2013. While
9 at OG&E, I was instrumental in developing and managing OG&E's pricing strategy
10 and products, including the design and implementation of the OG&E's SmartHours™
11 rate. I have been in my current position with Walmart since November, 2015. My
12 Witness Qualification Statement is included herein as Exhibit GWT-1.

13 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE THE**
14 **ARIZONA CORPORATION COMMISSION ("THE COMMISSION")?**

15 A. Yes, I submitted testimony in Docket No. E-04204A-15-0142 and in Docket No. E-
16 01933A-15-0322.

17 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE OTHER**
18 **STATE REGULATORY COMMISSIONS?**

19 A. Yes. I have testified in proceedings before The Arkansas Public Service
20 Commission, The Michigan Public Service Commission, The Oklahoma Corporation
21 Commission, The South Carolina Public Service Commission, The Public Utility
22 Commission of Texas, and The Wisconsin Public Service Commission. My
23 testimony addressed the topics of revenue requirement, rate design, revenue

1 allocation, pricing, customer impacts, tariffs and terms and conditions of service. *See*
2 Exhibit GWT-1.

3 **Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR TESTIMONY?**

4 A. Yes. I am sponsoring the exhibits listed in the Table of Contents.

5 **Q. PLEASE BRIEFLY DESCRIBE WALMART'S OPERATIONS IN ARIZONA.**

6 A. Walmart operates 127 retail units and 4 distribution centers, employing 34,776
7 associates in Arizona. In fiscal year ending 2016, Walmart purchased \$1.5 billion
8 worth of goods and services from Arizona-based suppliers, supporting 25,731
9 supplier jobs.¹

10 **Q. PLEASE BRIEFLY DESCRIBE WALMART'S OPERATIONS WITHIN THE**
11 **COMPANY'S SERVICE TERRITORY.**

12 A. Walmart has 73 retail units that take electric service from Arizona Public Service
13 Company ("APS" or "the Company"). Primarily, Walmart stores take service under
14 the E32L and E32M rates. Walmart is also a participant in the Company's AG-1 Rate
15 offering, taking service from an alternate supplier at 53 of our 73 retail locations.

16 **Purpose of Testimony**

17 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

18 A. The purpose of my testimony is to address aspects of the APS rate case filing and to
19 provide recommendations to assist the Commission in its thorough and careful
20 consideration of the impact on customers of the Company's proposed rate increase.

¹ <http://corporate.walmart.com/our-story/locations/united-states#/united-states/arizona>

1 Walmart will also file testimony in the cost of service and rate design portion of this
2 docket.

3 **Summary of Recommendations**

4 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS TO THE**
5 **COMMISSION.**

6 **A.** My recommendations to the Commission are as follows:

- 7 1) The Commission should balance the interests of the Company with those of its
8 customers. To that end, the Commission should thoroughly and carefully
9 consider the impact on customers in examining the requested revenue requirement
10 and return on equity ("ROE"), in addition to all other facets of this case. Such
11 consideration ensures that any increase in the Company's rates reflects the
12 minimum amount necessary to compensate the Company for adequate and
13 reliable service, while also providing APS an opportunity to earn a reasonable
14 return.
- 15 2) The Commission should consider the impact of the proposed capital structure on
16 the Company's equity risk in its determination of the appropriate ROE.
- 17 3) The Commission should closely examine the Company's proposed revenue
18 requirement increase and the associated ROE, especially when viewed in light of:
- 19 a) The resulting revenue requirement increases as I discuss in this testimony;
20 b) The ROE authorized by the Commission in the last UNSE rate case and
21 agreed to by the parties to the settlement agreement in the current TEP rate
22 case; and
23 c) Rate case ROEs approved by commissions nationwide.

1
2 The fact that an issue is not addressed herein or in related filings should not be
3 construed as an endorsement of any filed position.

4 **APS Proposed Revenue Increase**

5 **Q. WHAT IS YOUR UNDERSTANDING OF THE COMPANY'S PROPOSED**
6 **ELECTRIC REVENUE REQUIREMENT INCREASE?**

7 A. According to the Company, APS proposes an increase to base rates of \$433.4 million,
8 or 15 percent, based on a test year ending December 31, 2015. *See* Application, page
9 4, line 23 through page 5, line 6. The impact of the requested increase is offset by a
10 proposed transfer of \$267.6 million of adjustor mechanism revenue and a base fuel
11 cost decrease of \$61.7 million resulting in a net increase to customers of \$165.9
12 million, or 5.74 percent. *See Id*, page 4, lines 23 through 24.

13 **Q. ARE BASE FUEL COST REDUCTIONS RELEVANT TO THE**
14 **COMMISSION'S CONSIDERATION OF THE MERITS OF APS' PROPOSED**
15 **BASE RATE INCREASE?**

16 A. No. While reductions in fuel costs are beneficial to customers, they are not relevant
17 to the Commission's consideration of the merits of the Company's proposed base rate
18 increase. Since fuel costs are a pass-through cost, customers will receive the benefit
19 of any reduction in fuel-related expenses regardless of the outcome of this docket. At
20 issue in this docket is the approval of fair, just, and reasonable rates related to APS'
21 provision of reliable electric service to its customers. Changes in the non-fuel portion
22 of base rates reflect the permanent cost of providing service and should not be

1 considered any more or less reasonable based on contemporaneous changes in other
2 components of APS' retail rates.

3 **Q. WHAT IS THE ACTUAL IMPACT OF THE REQUESTED INCREASE THAT**
4 **IS UNDER CONSIDERATION IN THIS DOCKET?**

5 **A.** The requested non-fuel gross base rate increase is \$227.6 million. *See* Application
6 page 5, lines 4 through 5.

7 **Q. SHOULD THE COMMISSION GENERALLY CONSIDER THE IMPACT OF**
8 **THE PROPOSED NON-FUEL GROSS BASE RATE INCREASE OF \$227.6**
9 **MILLION ON CUSTOMERS IN SETTING THE REVENUE REQUIREMENT**
10 **CHANGES AND ROE FOR THE COMPANY?**

11 **A.** Yes. Electricity represents a significant portion of a retailer's operating costs. When
12 electric rates increase, the increase in cost to retailers puts pressure on consumer
13 prices and on the other expenses required by a business to operate. The Commission
14 should balance the interests of the Company with those of its customers. To that end,
15 the Commission should thoroughly and carefully consider the impact on customers in
16 examining the requested revenue requirement and ROE, in addition to all other facets
17 of this case. Such consideration ensures that any increase in the Company's rates
18 reflects the minimum amount necessary to compensate the Company for adequate and
19 reliable service, while also providing APS an opportunity to earn a reasonable return.

Return on Equity

Q. WHAT IS THE COMPANY'S PROPOSED ROE IN THIS DOCKET?

A. APS witness Villadsen recommends an ROE of 10.5 percent. This recommendation is based on results of her capital asset pricing model, discounted cash flow, and risk premium analyses which range from 9.90 percent to 10.80 percent. See Direct testimony of Bente Villadsen, page 2, lines 15-27. The requested ROE and revenue increase results in a proposed rate of return of 5.84 percent on a Fair Value Rate Base and, excluding the "fair value increment", results in a rate of return of 8.13 percent on an adjusted original cost rate base. See Direct Testimony of Leland R. Snook, page 4, lines 15 through 17.

Q. ARE YOU CONCERNED THAT THE COMPANY'S PROPOSED ROE OF 10.5 PERCENT IS EXCESSIVE?

A. Yes. I am concerned that the Company's proposed ROE is excessive, especially when viewed in light of the (a) the customer impact of the resulting revenue requirement increase as discussed above, and (b) recent rate case ROEs approved by the Commission and commissions nationwide.

Customer Impact

Q. IS THE COMPANY'S PROPOSED ROE HIGHER THAN THE ROE APPROVED IN THE COMPANY'S MOST RECENT RATE CASE – DOCKET NO. E-01933A-12-0291?

A. Yes. The proposed ROE of 10.5 percent represents an increase of 50 basis points from the ROE of 10.0 percent included in the terms of a settlement agreement which

1 was approved by the Commission in the Company's last general rate case. *See*
2 Docket No. E-01345A-11-0224, Decision No. 73183, page 11, line 22.

3 **Q. HAS THE COMPANY PROPOSED A CHANGE IN ITS CAPITAL**
4 **STRUCTURE IN THIS CASE?**

5 A. Yes. The Company proposes a change in the capital structure from the currently
6 approved equity portion of 53.94 percent, *See Id.* Page 11, line 21, to a proposed
7 equity portion of 55.8 percent. *See Application* page 6, line 2. The proposed capital
8 structure reflects the actual capital structure of the Company at the end of the test
9 year. *See Application*, page 6, lines 12 through 13.

10 **Q. DOES WALMART TAKE A POSITION ON THE CAPITAL STRUCTURE**
11 **PROPOSED BY THE COMPANY?**

12 A. No. Walmart does not take a position on the proposed capital structure at this time.
13 However, the Commission should consider the impact of the proposed capital
14 structure on the Company's equity risk in its determination of the appropriate ROE.

15 **Q. ACCORDING TO COMPANY WITNESS VILLADSEN, DOES THE**
16 **CAPITAL STRUCTURE IMPACT THE RETURN ON EQUITY NEEDS OF A**
17 **COMPANY?**

18 A. Yes, in her testimony, Dr. Villadsen points out that "*shareholders in a company with*
19 *more debt face more equity risk and therefore the return on equity needs to be*
20 *greater.*" *See Villadsen*, page 8, lines 3-4. It follows that a lower debt ratio would
21 result in reduced equity risk and lead to a reduced ROE requirement.

1 **Q. WHAT IS THE REVENUE REQUIREMENT IMPACT OF THE COMPANY'S**
2 **PROPOSED INCREASE IN ROE AND EQUITY RATIO?**

3 **A.** The impact of the changes to ROE and capital structure is an increase to revenue
4 requirement of approximately \$41.9 million as compared to that resulting from the
5 currently authorized ROE and capital structure. The requested increase in the total
6 cost of capital constitutes approximately 9.7 percent of the base revenue increase
7 requested by APS. See Exhibit GWT-2.

8 **Q. HAVE ANY OTHER STATES RECOGNIZED THE IMPORTANCE OF**
9 **CONSIDERING RATEPAYER IMPACTS IN THE ROE DETERMINATION**
10 **PROCESS?**

11 **A.** Yes. While I am not an attorney, I understand that the North Carolina Supreme Court
12 determined that impacts on ratepayers should be considered in awarding the proper
13 ROE for a public utility. Specifically, the Court stated:

14 “Given the legislature’s goal of balancing customer and investor interests, the
15 customer-focused purpose of Chapter 62, and this Court’s recognition that the
16 Commission must consider all evidence presented by interested parties, which
17 necessarily includes customers, it is apparent that customer interests cannot be
18 measured only indirectly or treated as mere afterthoughts and that Chapter 62’s
19 ROE provisions cannot be read in isolation as only protecting public utilities and
20 their shareholders. Instead, it is clear that the Commission must take customer
21 interests into account when making an ROE determination. Therefore, we hold
22 that in retail electric service rate cases the Commission must make findings of fact
23 regarding the impact of changing economic conditions on customers when
24 determining the proper ROE for a public utility.” *See State Ex Rel. Utils. Comm’n*
25 *v. Cooper*, 366 N.C. 484, 739 S.E.2d 541, 547 (2013) (emphasis in original).

26 While the Commission is not bound by a decision of the North Carolina Supreme
27 Court, the language is illustrative of the importance of considering the economic

1 conditions faced by customers in conjunction with the Commission's consideration of
2 the utility's interests.

3 *Recent ROE Actions in Arizona*

4 **Q. WHAT IS YOUR UNDERSTANDING OF THE RECENTLY AWARDED ROE**
5 **FOR UNS ELECTRIC ("UNSE") IN ITS RECENT RATE CASE?**

6 **A.** The Commission approved a 9.5 percent ROE, as stipulated between UNSE,
7 Commission Staff, RUCO, and Walmart in Docket E-04204A-15-0142. *See* Docket
8 E-04304A-15-0142, Decision No. 75697, page 139, lines 13 through 14.

9 **Q. WAS A SETTLEMENT AGREEMENT ON ROE REACHED IN THE**
10 **TUCSON ELECTRIC POWER ("TEP") RATE CASE?**

11 **A.** Yes. In the settlement agreement on revenue requirement, several parties agreed to
12 an ROE of 9.75 percent. *See* Docket E-01933A-15-0322, Settlement Agreement
13 Regarding Revenue Requirement, paragraph 3.2, page 4.

14 **Q. SHOULD COMMISSION CONSIDER THE OUTCOME OF THE UNSE**
15 **RATE CASE AND SETTLEMENT AGREEMENT IN THE TEP RATE CASE**
16 **IN ITS DECISION REGARDING THE AUTHORIZED ROE FOR APS?**

17 **A.** Yes. While these ROEs are agreements reached with regard to other Arizona utilities
18 and are not necessarily reflective of the conditions faced by APS, they indicate
19 agreement among several parties within the Commission's jurisdiction that an
20 authorized ROE of 9.5 percent, in the UNS case and 9.75 percent in the TEP case,
21 provides opportunity to earn a reasonable return on the investment required to provide
22 reliable service to customers.

1 *National Utility Industry ROE Trends*

2 **Q. HOW DOES THE COMPANY'S PROPOSED ROE COMPARE WITH ROEs**
3 **APPROVED BY OTHER UTILITY REGULATORY COMMISSIONS??**

4 **A.** The ROE proposed by the Company is higher than the average ROE approved by
5 other utility regulatory commissions in 2014, 2015, and so far in 2016. However, the
6 gap between the average ROE and the Company's proposed ROE widens when only
7 2015 and 2016 data are examined. *See* Exhibit GWT-3.

8 **Q. WHAT IS YOUR UNDERSTANDING OF THE ROE AWARDED IN RECENT**
9 **RATE CASES?**

10 **A.** According to data from SNL Financial¹, a financial news and reporting company,
11 there have been 87 reported electric utility rate case ROEs authorized by state
12 regulatory commissions for investor-owned electric utilities in 2014, 2015, and thus
13 far in 2016. The average of these reported ROEs is 9.66 percent. The range of
14 reported authorized ROEs for the period is 8.64 percent to 10.55 percent, and the
15 median authorized ROE is 9.70 percent. *Id.*

¹ Regulatory Research Associates is part of SNL Financial.

1 **Q. SEVERAL OF THE REPORTED AUTHORIZED ROES ARE FOR**
2 **DISTRIBUTION-ONLY UTILITIES OR FOR ONLY A UTILITY'S**
3 **DISTRIBUTION SERVICE RATES. WHAT IS THE AVERAGE**
4 **AUTHORIZED ROE IN THE REPORTED GROUP FOR VERTICALLY**
5 **INTEGRATED UTILITIES LIKE APS?**

6 **A.** In the group reported by SNL Financial, the average ROE for vertically integrated
7 utilities authorized from 2014 to present is 9.82 percent. *Id.* When viewed year over
8 year, the more recent ROE awards are lower than those awarded in 2014.

9 **Q. PLEASE EXPLAIN.**

10 **A.** The average authorized ROE for vertically integrated utilities in 2014 was 9.92
11 percent, in 2015 it was 9.75 percent, and so far in 2016 it is 9.78 percent. It should be
12 noted that of the twelve ROEs of 10 percent or higher awarded during the period,
13 only three were awarded by states other than Florida, Michigan, or Wisconsin.
14 Excluding ROEs awarded in those three states, the average authorized ROE for
15 vertically integrated utilities in 2014, 2015 and thus far in 2016 is 9.69 percent. The
16 average ROE in 2014 was 9.78 percent, in 2015 it was 9.58 percent, and thus far in
17 2016 it is 9.70 percent. Additionally, in 2015 and so far in 2016, sixteen vertically
18 integrated utilities, including UNSE as I discuss above, have been authorized ROEs
19 of 9.60 percent or less. *Id.* As such, the Company's proposed 10.5 percent ROE is
20 counter to broader electric industry trends.

1 Q. WHAT IS THE REVENUE REQUIREMENT IMPACT IF THE
2 COMMISSION WERE TO AWARD AN ROE OF 9.7 PERCENT, THE
3 AVERAGE ROE AWARDED FOR VERTICALLY INTEGRATED
4 UTILITIES EXCLUDING FLORIDA, MICHIGAN, AND WISCONSIN IN
5 2016?

6 A. Authorizing APS an ROE of 9.7 percent instead of the requested 10.5 percent would
7 result in a reduction to the requested increase, inclusive of taxes, of about \$49.9
8 million. This represents about 11.5 percent of the Company's requested increase.
9 See Exhibit GWT-4.

10 Q. IS WALMART RECOMMENDING THAT THE COMMISSION BE BOUND
11 BY ROEs AUTHORIZED BY OTHER STATE REGULATORY AGENCIES?

12 A. No. Decisions of other state regulatory commissions are not binding on the
13 Commission. Additionally, each commission considers the specific circumstances in
14 each case in its determination of the proper ROE. Walmart is providing this
15 information to illustrate a national customer perspective on industry trends in
16 authorized ROE.

17 *Conclusion*

18 Q. GENERALLY, WHAT IS YOUR RECOMMENDATION TO THE
19 COMMISSION REGARDING THE COMPANY'S PROPOSED INCREASE IN
20 ROE?

21 A. The Commission should closely examine the Company's proposed revenue
22 requirement increase and the associated ROE, especially when viewed in light of:

- 23 1) The resulting revenue requirement increases as I discuss in this testimony;

- 1 2) The ROE authorized by the Commission in the last UNSE rate case and
2 agreed to by the parties to the settlement agreement in the current TEP rate
3 case; and
4 3) Rate case ROEs approved by commissions nationwide.

5 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

6 **A. Yes.**

Gregory W. Tillman

Senior Manager, Energy Regulatory Analysis

Wal-Mart Stores, Inc.

Business Address: 2001 SE 10th Street, Bentonville, AR, 72716-5530

Business Phone: (479) 204-7993

EXPERIENCE

November 2015 – Present

Wal-Mart Stores, Inc., Bentonville, AR

Senior Manager, Energy Regulatory Analysis

November 2008 – November 2015

Oklahoma Gas & Electric, Oklahoma City, OK

Product Development Pricing Leader

Manager, Pricing

Senior Pricing Analyst

May 2006 – November 2008

LSG Solutions, Oklahoma City, OK

Project Manager, International Registration Plan/Interstate Fuel Tax Agreement Systems Development

August 2002 – May 2006

OnPeak Utility Solutions, Oklahoma City, OK

Owner/Consultant

May 2000 – August 2002

Automated Energy, Inc., Oklahoma City, OK

Vice President, Utility Solutions

November 1997 – May 2000

Williams Energy, Tulsa, OK

Sr. Manager Accounting Services

Process Manager, Customer Billing and Accounting

Retail Systems Manager, Billing and Electricity

May 1990 – November 1997

Public Service Company of Oklahoma, Tulsa, OK

Manager, Software Development and Support

Supervisor, Data Translation and Power Billing

Administrator, Disaster Recovery and Research and Development

Programmer/Analyst

June 1987 – May 1990

United States Army, Signal Command, Ft. Monmouth, NJ

Project Officer, Joint Tactical Information Distribution System

EDUCATION

1991-1994	The University of Tulsa	Graduate Coursework, M.B.A.
1987	The University of Tulsa	B.S., Electrical Engineering

TESTIMONY BEFORE REGULATORY COMMISSIONS

2016

Public Service Commission of South Carolina Docket No. 2016-227-E: IN RE: Application of Duke Energy Progress, LLC for Authority to Adjust and Increase Its Electric Rates and Charges

Arkansas Public Service Commission Docket No. 16-027-R: In The Matter of Net Metering and The Implementation of Act 827 of 2015.

Public Utility Commission of Texas Docket No. 45524, in the matter of the Application of Southwestern Public Service for Authority to Change Rates

Public Service Commission of Wisconsin Docket No. 4220-UR-122: Application of Northern States Power Company, a Wisconsin Corporation for Authority to Adjust Electric and Natural Gas Rates

Michigan Public Service Commission Case No. U-18014. In the matter of the Application of DTE ELECTRIC COMPANY for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.

Arizona Corporation Commission Docket No. E-01933A-15-0322: In the Matter of the Application of Tucson Electric Power Company For the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the Properties of Tucson Electric Power Company Devoted to its Operations Throughout the State of Arizona, and for Related Approvals.

2015

Arizona Corporation Commission Docket No. E-04204A-15-0142: In the Matter of the Application of UNS Electric, Inc. For the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the Properties of UNS Electric, Inc. Devoted to Its Operations Throughout the State of Arizona, and for Related Approvals.

2012

Arkansas Public Service Commission Docket No. 12-067-U: In the Matter of the Application of Oklahoma Gas and Electric Company for an Order Approving a Temporary Surcharge to Recover the Costs of a Renewable Wind Generation Facility

2011

Oklahoma Corporation Commission Cause No. PUD 201100087: In the Matter of the Application of Oklahoma Gas and Electric Company for an Order of the Commission Authorizing Applicant to Modify its Rates, Charges, and Tariffs for Retail Electric Service in Oklahoma

2010

Arkansas Public Service Commission Docket No. 10-067-U: In the Matter of the Application of Oklahoma Gas and Electric Company for Approval of a General Change in Rates and Tariffs

Calculation of Revenue Requirement Impact of APS' Proposed Increase in ROE and Equity Ratio

(1) APS Requested Fair Value Rate of Return 5.84%

1) Calculate Rate of Return at Current ROE, Cost of Debt, and Capital Structure

	Capital Component	Percent of Total	Cost	Weighted Cost
(2)	Short-term Debt	0.00%	0.00%	0.00%
(3)	Long-term Debt	46.06%	5.13%	2.36%
(4)	Common Equity	53.94%	10.00%	5.39%
(5)	Total			7.75%

2) Revenue Requirement Impact

(6) Fair Value Rate Base (\$000) \$ 9,976,023

(7) = (5) Rate of Return (ROE = 10.0%) 7.75%

(8) (page 2, (15)) Required Fair Value Rate of Return 5.58%

(9) (6) x (8) Adjusted Operating Income (ROE = 10.0%) \$ 556,662

(10) (1) x (6) APS Proposed Operating Income (\$000) \$ 582,600

(11) (10) - (9) Difference in Operating Income (\$000) \$ 25,938

(12) Conversion Factor 1.6155

(13) (11) x (12) **Difference in Revenue Requirement (\$000)** \$ **41,902**

(14) Requested Revenue Requirement Increase (\$000) \$ 433,434

(15) (13) / (14) **Increase Request from ROE Increase** **9.67%**

Sources

Schedule A-1

Schedule D-1, page 1

Determination of Fair Value Rate of Return

(1)		Original Cost Rate Base		\$ 6,771,151
(2)		Fair Value Rate Base		\$ 9,976,023
(3)		Cost of Debt		5.13%
(4)		Cost of Equity		10.00%
(5)		Fair Value Increment		1.00%
			<u>Percent</u>	<u>Amount</u>
(6)	(1) x (%)	Long-Term Debt	46.06%	\$ 3,118,792
(7)	(1) x (%)	Equity	53.94%	\$ 3,652,359
(8)	(2) - (6) - (7)	Fair Value Increment		\$ 3,204,872
(9)	(6) / (2)	Percent Long-Term Debt		31.26%
(10)	(7) / (2)	Percent Equity		36.61%
(11)	(8) / (2)	Percent Fair Value Increment		32.13%
		Weighted Cost		
(12)	(3) x (9)	Long Term Debt		1.60%
(13)	(4) x (10)	Equity		3.66%
(14)	(5) x (11)	Fair Value Rate Base		0.32%
(15)	(12)+(13)+(14)	FVROR		5.58%

Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2014 to Present

State	Utility	Docket	Decision Date	Vertically Integrated (V)/Distribution (D)	Return on Equity
New York	Consolidated Edison Co. of NY	13-E-0030	2/20/2014	D	9.20%
North Dakota	Northern States Power Co.	PU-12-813	2/26/2014	V	9.75%
New Hampshire	Liberty Utilities Granite St	DE-13-063	3/17/2014	D	9.55%
District of Columbia	Potomac Electric Power Co.	1103-2013-E	3/26/2014	D	9.40%
New Mexico	Southwestern Public Service Co	12-00350-UT	3/26/2014	V	9.96%
Delaware	Delmarva Power & Light Co.	13-115	4/2/2014	D	9.70%
Texas	Entergy Texas Inc.	41791	5/16/2014	V	9.80%
Massachusetts	Fitchburg Gas & Electric Light	13-90	5/30/2014	D	9.70%
Wisconsin	Wisconsin Power and Light Co	6680-UR-119	6/6/2014	V	10.40%
Maine	Emera Maine	2013-00443	6/30/2014	D	9.55%
Maryland	Potomac Electric Power Co.	9336	7/2/2014	D	9.62%
Louisiana	Entergy Louisiana LLC (New Orleans)	UD-13-01	7/10/2014	V	9.95%
New Jersey	Rockland Electric Company	ER-13111135	7/23/2014	D	9.75%
Maine	Central Maine Power Co.	2013-00168	7/29/2014	D	9.45%
Wyoming	Cheyenne Light Fuel Power Co.	20003-132-ER-13	7/31/2014	V	9.90%
Arkansas	Entergy Arkansas Inc.	13-028-U ¹	8/15/2014	V	9.50%
New Jersey	Atlantic City Electric Co.	ER-14030245	8/20/2014	D	9.75%
Vermont	Green Mountain Power Corp	8190, 8191	8/25/2014	V	9.60%
Utah	PacifiCorp	13-035-184	8/29/2014	V	9.80%
Florida	Florida Public Utilities Co.	140025-EI	9/15/2014	V	10.25%
Nevada	Nevada Power Co.	14-05004	10/9/2014	V	9.80%
Illinois	MidAmerican Energy Co.	14-0066	11/6/2014	V	9.56%
Wisconsin	Wisconsin Public Service Corp.	6690-UR-123	11/6/2014	V	10.20%
Wisconsin	Wisconsin Electric Power Co.	05-UR-107	11/14/2014	V	10.20%
Virginia	Appalachian Power Co.	PUE-2014-00026	11/26/2014	V	9.70%
Wisconsin	Madison Gas and Electric Co.	3270-UR-120	11/26/2014	V	10.20%
Oregon	Portland General Electric Co.	UE-283	12/4/2014	V	9.68%
Illinois	Commonwealth Edison Co.	14-0312	12/10/2014	D	9.25%
Illinois	Ameren Illinois	14-0317	12/10/2014	D	9.25%
Mississippi	Entergy Mississippi Inc.	2014-UN-0132	12/11/2014	V	10.07%
Wisconsin	Northern States Power Co.	4220-UR-120	12/12/2014	V	10.20%
Connecticut	Connecticut Light & Power Co.	14-05-06	12/17/2014	D	9.17%
Colorado	Black Hills Colorado Electric	14AL-0393E	12/18/2014	V	9.83%
Wyoming	PacifiCorp	20000-446-ER-14	1/23/2015	V	9.50%
Colorado	Public Service Co. of CO	14AL-0660E	2/24/2015	V	9.83%
New Jersey	Jersey Central Power & Light Co.	ER-12111052	3/18/2015	D	9.75%
Washington	PacifiCorp	UE-140762	3/25/2015	V	9.50%
Minnesota	Northern States Power Co.	E-002/GR-13-868	3/26/2015	V	9.72%
Michigan	Wisconsin Public Service Corp.	U-17669	4/23/2015	V	10.20%
Missouri	Union Electric Co.	ER-2014-0258	4/29/2015	V	9.53%
West Virginia	Appalachian Power Co.	14-1152-E-42-T	5/26/2015	V	9.75%
New York	Central Hudson Gas & Electric	14-E-0318	6/17/2015	D	9.00%
New York	Consolidated Edison Co. of NY	15-E-0050	6/17/2015	D	9.00%
Missouri	Kansas City Power & Light	ER-2014-0370	9/2/2015	V	9.50%
Kansas	Kansas City Power & Light	15-KCPE-116-RTS	9/10/2015	V	9.30%
New York	Orange & Rockland Utls Inc.	14-E-0493	10/15/2015	D	9.00%
Michigan	Consumers Energy Co.	U-17735	11/19/2015	V	10.30%
Wisconsin	Wisconsin Public Service Corp.	6690-UR-124	11/19/2015	V	10.00%
Wisconsin	Northern States Power Co.	4220-UR-121	12/3/2015	V	10.00%
Illinois	Ameren Illinois	15-0305	12/9/2015	D	9.14%
Illinois	Commonwealth Edison Co.	15-0287	12/9/2015	D	9.14%
Michigan	DTE Electric Co.	U-17767	12/11/2015	V	10.30%
Oregon	Portland General Electric Co.	UE 294	12/15/2015	V	9.60%
Texas	Southwestern Public Service Co	43695	12/17/2015	V	9.70%

Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2014 to Present

State	Utility	Docket	Decision Date	Vertically Integrated (V)/Distribution (D)	Return on Equity
Idaho	Avista Corp.	AVU-E-15-05	12/18/2015	V	9.50%
Wyoming	PacifiCorp	20000-469-ER-15	12/30/2015	V	9.50%
Washington	Avista Corp.	UE-150204	1/6/2016	V	9.50%
Arkansas	Entergy Arkansas Inc.	15-015-U	2/13/2016	V	9.75%
Indiana	Indianapolis Power & Light Co.	44576	3/16/2016	V	9.85%
Massachusetts	Fitchburg Gas & Electric Light	15-80	4/29/2016	D	9.80%
Maryland	Baltimore Gas and Electric Co.	9406	6/3/2016	D	9.75%
New Mexico	El Paso Electric Co.	15-00127-UT	6/8/2016	V	9.48%
New York	NY State Electric & Gas Corp.	15-E-0283	6/15/2016	D	9.00%
New York	Rochester Gas & Electric Corp.	15-E-0285	6/15/2016	D	9.00%
Indiana	Northern Indiana Public Service Co.	44688	7/18/2016	V	9.98%
Tennessee	Kingsport Power Company	16-00001	8/9/2016	V	9.85%
Arizona	UNS Electric Inc.	E-04204A-15-0142	8/18/2016	V	9.50%
New Jersey	Atlantic City Electric Co.	ER-16030252	8/24/2016	D	9.75%
Washington	PacifiCorp	UE-152253	9/1/2016	V	9.50%
Michigan	Upper Peninsula Power Co.	U-17895	9/8/2016	V	10.00%
New Mexico	Public Service Co. of NM	15-00127-UT	9/28/2016	V	9.58%
Massachusetts	Massachusetts Electric Co.	15-155	9/30/2016	D	9.90%
Wisconsin	Madison Gas and Electric Co.	3270-UR-121	11/9/2016	V	9.80%
Oklahoma	Public Service Company of OK	PUD 201500208	11/10/2016	V	9.50%
Maryland	Potomac Electric Power Co.	9418	11/15/2016	D	9.55%
Wisconsin	Wisconsin Power and Light Co.	6680-UR-120	11/18/2016	V	10.00%
Florida	Florida Power & Light Co.	160021-EI	11/29/2016	V	10.55%
California	Liberty Utilities CalPeco	A15-05-008	12/1/2016	V	10.00%
Illinois	Ameren Illinois	D-16-0262	12/6/2016	D	8.64%
Illinois	Commonwealth Edison Co.	D-16-0259	12/6/2016	D	8.64%
South Carolina	Duke Energy Progress Inc.	2016-227-E	12/7/2016	V	10.10%
New Jersey	Jersey Central Power & Light Co.	ER-16040383	12/12/2016	D	9.60%
Connecticut	United Illuminating Co.	16-06-04	12/14/2016	D	9.10%
Colorado	Black Hills Colorado Electric	16AL-0326E	12/19/2016	V	9.37%
Maine	Emera Maine	2015-00360	12/19/2016	D	9.00%
North Carolina	Virginia Electric & Power Co.	E-22 Sub 532	12/22/2016	V	9.90%
Nevada	Sierra Pacific Power Co.	16-06006	12/22/2016	V	9.60%

¹ The Arkansas Public Service Commission originally approved a 9.3% ROE, but increased it to 9.5% on rehearing. See Order No. 35, Arkansas Docket 13-028-U.

Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2014 to Present

State	Utility	Docket	Decision Date	Vertically Integrated (V)/Distribution (D)	Return on Equity
Entire Period					
		87			
	# of Decisions				
	Average (All Utilities)				9.66%
	Average (Distribution Only)				9.36%
	Average (Vertically Integrated Only)				9.82%
	Average (Vertically Integrated, excl FL, MI, WI)				9.69%
	Average (Vertically Integrated FL, MI, WI Only)				10.15%
	Median				9.70%
	Minimum				8.64%
	Maximum				10.55%
2014					
	# of Decisions	33			
	Average (All Utilities)				9.75%
	Average (Distribution Only)				9.49%
	Average (Vertically Integrated Only)				9.92%
	Average (Vertically Integrated, excl FL, MI, WI)				9.78%
	Average (Vertically Integrated FL, MI, WI Only)				10.24%
2015					
	# of Decisions	23			
	Average (All Utilities)				9.60%
	Average (Distribution Only)				9.17%
	Average (Vertically Integrated Only)				9.75%
	Average (Vertically Integrated, excl FL, MI, WI)				9.58%
	Average (Vertically Integrated FL, MI, WI Only)				10.16%
2016					
	# of Decisions	31			
	Average (All Utilities)				9.60%
	Average (Distribution Only)				9.31%
	Average (Vertically Integrated Only)				9.78%
	Average (Vertically Integrated, excl FL, MI, WI)				9.70%
	Average (Vertically Integrated FL, MI, WI Only)				10.18%

Source: SNL Financial LC, December 2, 2016

Calculation of Revenue Requirement Impact of APS' Proposed ROE Against the Average ROE Nationally (excluding FL, MI, WI)

(1) APS Requested Fair Value Rate of Return 5.84%

1) Calculate Rate of Return at Current ROE, Cost of Debt, and Capital Structure

	Capital Component	Percent of Total	Cost	Weighted Cost
(2)	Short-term Debt	0.00%	0.00%	0.00%
(3)	Long-term Debt	44.20%	5.13%	2.27%
(4)	Common Equity	55.80%	9.70%	5.41%
(5)	Total			7.68%

2) Revenue Requirement Impact

(6) Fair Value Rate Base (\$000) \$ 9,976,023

(7) = (5) Rate of Return (ROE = 9.7%) 7.68%

(8) (page 2, (15)) Required Fair Value Rate of Return 5.53%

(9) (6) x (8) Adjusted Operating Income (ROE = 9.7%) \$ 551,674

(10) (1) x (6) APS Proposed Operating Income (\$000) \$ 582,600

(11) (10) - (9) Difference in Operating Income (\$000) \$ 30,926

(12) Conversion Factor 1.6155

(13) (11) x (12) **Difference in Revenue Requirement (\$000)** \$ **49,960**

(14) Requested Revenue Requirement Increase (\$000) \$ 433,434

(15) (13) / (14) **Increase Request from ROE Increase** **11.53%**

Sources

Schedule A-1

Schedule D-1, page 1

Determination of Fair Value Rate of Return

(1)		Original Cost Rate Base		\$ 6,771,151
(2)		Fair Value Rate Base		\$ 9,976,023
(3)		Cost of Debt		5.13%
(4)		Cost of Equity		9.70%
(5)		Fair Value Increment		1.00%
			<u>Percent</u>	<u>Amount</u>
(6)	(1) x (%)	Long-Term Debt	44.20%	\$ 2,992,849
(7)	(1) x (%)	Equity	55.80%	\$ 3,778,302
(8)	(2) - (6) - (7)	Fair Value Increment		\$ 3,204,872
(9)	(6) / (2)	Percent Long-Term Debt		30.00%
(10)	(7) / (2)	Percent Equity		37.87%
(11)	(8) / (2)	Percent Fair Value Increment		32.13%
			<u>Weighted Cost</u>	
(12)	(3) x (9)	Long Term Debt		1.54%
(13)	(4) x (10)	Equity		3.67%
(14)	(5) x (11)	Fair Value Rate Base		0.32%
(15)	(12)+(13)+(14)	FVROR		5.53%